



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/595,959

05/22/2006

Larry R. Krepski

C1271.70022US02

9672

23628 7590 09/03/2009
WOLF GREENFIELD & SACKS, P.C.
600 ATLANTIC AVENUE
BOSTON, MA 02210-2206

EXAMINER

DESAI, RITA J

ART UNIT

PAPER NUMBER

1625

MAIL DATE

DELIVERY MODE

09/03/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/595,959	Applicant(s) KREPSKI ET AL.	
	Examiner Rita J. Desai	Art Unit 1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5,7-9,11,12,15,17-23,25,26,29-32 and 36-55 is/are pending in the application.
- 4a) Of the above claim(s) 3,9,12,30-32,43-48,53 and 55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,7,8,11,15,17-23,25,26,29,36-42,49-52 and 54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/5/09,3/10/09,,9/1/06</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1625

DETAILED ACTION

Election/Restrictions

Applicant's election of Group I in the reply filed on 7/15/09 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

The Restriction is made FINAL.

Claims 33-35 are canceled. New claims 36-55 have been added.

The claims that include the elected species include claims 1, 2, 5, 7-8, 11, 15, 17-23, 25-26, 29, 36-42, 49-52, and 54.

Claims withdrawn are 3, 9, 12, 30-32, 43, 44-48, 53 and 55.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 2, 5, 7-8, 11, 15, 17-23, 25-26, 29, 36-42, 49-52, and 54 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for R2 to be an alkyl or an alkyl substituted by OH and R1 to be an alkyl or a phenyl or N(CH₃)(OCH₃) does not provide enablement for these groups to be substituted by the laundry list given in the claims. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

1) The breadth of the claims: The instant claims encompass many compounds. These compounds cover a very wide range of compounds. The substituents go on for pages and pages. Such as

Art Unit: 1625

alkyl, aryl, alkylene-aryl, heteroaryl, or alkylene-heteroaryl substituted by one or more substituents selected from the group consisting of:

halogen,
cyano,
nitro,
alkoxy,
dialkylamino,
alkylthio,

R_{1-4} is selected from the group consisting of:

alkyl,
aryl,
alkylene-aryl,
heteroaryl,
alkylene-heteroaryl, and

alkyl, aryl, alkylene-aryl, heteroaryl, or alkylene-heteroaryl substituted by one or more substituents selected from the group consisting of:

halogen,
cyano,
nitro,
alkoxy,
dialkylamino,
alkylthio,
haloalkyl,
haloalkoxy,
alkyl, and
-N₃; and

R_2 is selected from the group consisting of:

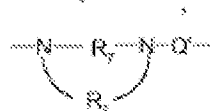
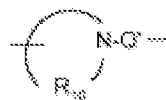
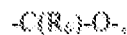
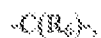
-R₄,
-X'-R₄,
-X'-Y'-R₄, and
-X'-R₅;

X' is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, and heteroarylene, wherein the alkylene, alkenylene, and alkynylene groups can be optionally

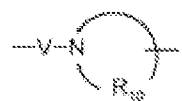
Art Unit: 1625

interrupted or terminated with arylene, or heteroarylene, and optionally interrupted by one or more -O- groups;

Y' is selected from the group consisting of:

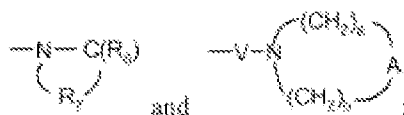


, and



R₄ is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, and alkylheteroarylenyl, wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, and alkylheteroarylenyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkyleneoxy, heteroaryl, heteroaryloxy, heteroarylalkyleneoxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkyleneoxy, and in the case of alkyl, alkenyl, and alkynyl, oxo;

R_i is selected from the group consisting of:



R_0 is selected from the group consisting of $-O$ and $-S$;

R₁ is a C₁₋₇ alkylene;

R₃ is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

R₃ is selected from the group consisting of hydrogen and alkyl;

R₁₀ is C₂₋₈ alkylene;

A is selected from the group consisting of -O-, -C(O)-, -S(O)₂-, -CH₂-, and -N(R₄)-;

Q' is selected from the group consisting of a bond, $-C(R_6)-$, $-C(R_6)-C(R_6)-$, $-S(O)_2-$, and $-S(O)_2-N(R_3)-$.

Y is selected from the group consisting of $-\text{C}(\text{R}_d)-$, $-\text{O}-\text{C}(\text{R}_d)-$, and $-\text{S}(\text{O})_2-$;

a and b are independently integers from 1 to 6 with the proviso that $a + b$ is ≤ 7 ;

R_A and R_B are each independently selected from the group consisting of:

hydrogen,
halogen,
alkyl,
alkenyl,
alkoxy,
alkylthio, and
-N(R₂)₂.

or R_A and R_B taken together form either a fused aryl ring that is unsubstituted or substituted by one or more R groups, or a fused 5 to 7 membered saturated ring that is unsubstituted or substituted by one or more R_a groups;

R is selected from the group consisting of:

fluoro,
alkyl,
haloalkyl,
alkoxy, and

Art Unit: 1625

/

-N(R₅)₂ andR₄ is selected from the group consisting of:

halogen,

hydroxy,

alkyl,

alkenyl,

haloalkyl,

alkoxy,

alkylthio, and

-N(R₅)₂.

The list given above is just for the substituents on the alkyl, phenyl or the RaRb carbocyclic ring group.

2) The nature of the invention: The invention is a (highly) substituted tricyclic compound for pharmaceutical use.

3) The state of the prior art: There are several documents and patents with a similar imiquimod core and with specific substituents.

4) The level of one of ordinary skill: The ordinary artisan is highly skilled.

5) The level of predictability in the art: Pharmaceutical art is highly unpredictable.

6) The amount of direction provided by the inventor: The inventor provides very little direction in the instant specification. The examples made do not have any substituents corresponding to the list given above.

7) The existence of working examples: The instant specification has made a few compounds about 2% of the full claimed scope. Applicants can have some inoperable embodiments but not 98% to be inoperable. None of the examples made have been tested for activity.

8) The quantity of experimentation needed to make or use the invention based on the content of the disclosure: Since there are no working examples, and only few compounds are made it cannot be seen how the amount of experimentation will not be very high and burdensome.

Taking the above eight factors into consideration, it is not seen where the instant specification enables the ordinary artisan to make and/or use the instantly claimed invention.

Ex parte DIAMOND, 123 USPQ 167 (Bd. Pat. App. & Int. 1959) where the examiner was affirmed for a scope of enablement rejection, and the court stated:

Art Unit: 1625

Scope of claims should not be unduly extensive in chemical fields where applicability is highly speculative or not explored; subject matter which relies upon prediction for its support is unpatentable.

Specification contains 23 specific examples, but they are to preparation of relatively simple compounds; this is relatively meager and non representative disclosure to support claims embracing millions of compounds.

Applicant may not preempt unduly large field by expedient of making broad prophetic statements in specification and claims unless accuracy of such statements is sufficiently supported by well established chemical principles or by sufficient number of examples.

“The term ‘substituted’ without modification or restriction includes all compounds wherein one or more of the atoms or radicals of the original compound have been replaced by one or more other atoms or radicals. Without any limitation on the character or number of substituents it becomes apparent that the quoted term may be considered inclusive of almost any possible substance and the claims under consideration are either of unlimited or indeterminate scope. We are of the opinion that the reasoning of the courts in *Schering Corp. v. Gilbert*, 68 USPQ 84, and *Hercules Powder Co. v. Rohm & Haas*, 70 USPQ 297, is controlling.”

embrace millions of compounds. It should also be observed that appellant is working in a field where little prediction is possible and this Board has on several occasions held that the scope of claims should not be unduly extensive in fields where applicability is highly speculative or not explored and that subject matter which relies upon prediction for its support is unpatentable. *Ex parte Middleton*, 87 USPQ 57; *Ex parte Kauck et al.*, 95 USPQ 197, *Ex parte Rosenkranz et al.*, Pat. No. 2,715,637.

In *Minnesota Mining and Mfg. Co. et al. v. Carborundum Co. et al.*, 155 F.2d 746, 69 USPQ 288, the court held that “An inventor cannot disclose a small number of components which will serve as a springboard for claiming an entire class.”

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

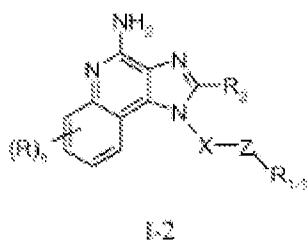
A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 1625

Claims 1, 2, 5, 7-8, 11, 15, 17-23, 25-26, 29, 36-42, 49-52, and 54 are rejected under 35 U.S.C. 102(e) as being anticipated by US 20050070460 or US20070292456 or WO 20050162373 or WO 2005016275 Hummerbeck David et al.

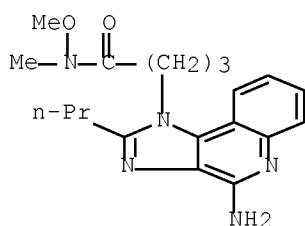
Applicants claims are drawn to the compounds of the formula



wherein X is a alkylene chain ,

Z is C=O and R1-1 is an alkyl , a phenyl, -N(CH3)OCH3 or a cycloalkyl.

The prior art teaches compounds of the formula



, This reads on the applicants compounds when R2 is a n-Propyl, Z is C=O and R1-1 is NCH3-OCH3.

The specification discloses several compounds with the different generic formula as IRMs.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

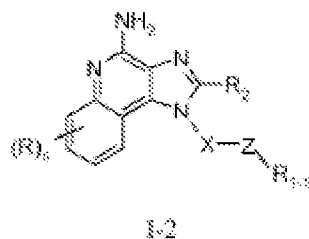
Claims 1, 2, 5, 7-8, 11, 15, 17-23, 25-26, 29, 36-42, 49-52, and 54 are rejected under 35 U.S.C. 103(a) as being obvious over David Hays 7091214.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention “by another”; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

- Claims 1, 2, 5, 7-8, 11, 15, 17-23, 25-26, 29, 36-42, 49-52, and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over David Hays et al US 7091214.

Art Unit: 1625

Applicants claims are drawn to the compounds of the formula

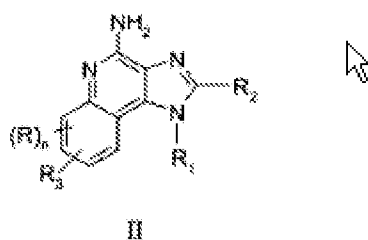


wherein X is a alkylene chain ,

Z is C=O and R1-1 is an alkyl , a phenyl, -N(CH3)OCH3 or a cycloalkyl

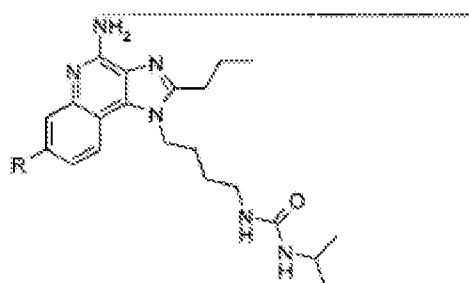
Scope & Content of Prior Art MPEP 2141.01

The reference discloses the compounds of the formula



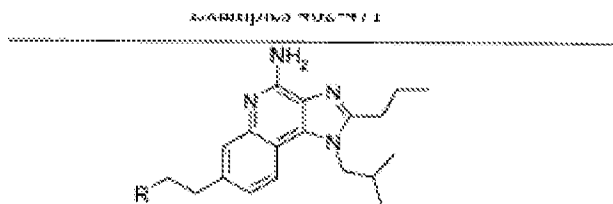
with R2 to be an alkyl and n to be

0, R1 to be from a list of various groups which may be substituted.



See for eg

Art Unit: 1625



Difference between Prior Art and the claims MPEP 2141.02

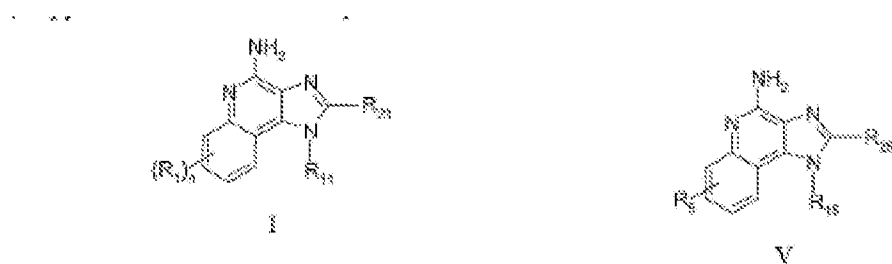
The prior art discloses the compounds generically.

Prima Facie Obviousness, Rational and Motivation MPEP 2142-2413

In view of the prior art's large generic disclosure with applicants claim embedded within the large genus it would be obvious to modify the compounds of the prior art to come up with compounds of the invention.

- The 103 rejection is also over WO 2005016275 (102(e) date. Hammebeck et al.

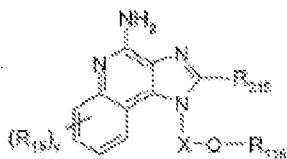
The reference teaches



R25 is



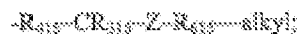
Art Unit: 1625



XV

X is $-\text{CHR}_{116}$, $-\text{CHR}_{116}\text{-alkyl}$, or $-\text{CHR}_{116}\text{-alkenyl}$;

R_{116} is selected from:

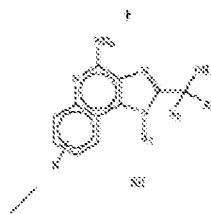


- 39 -

X is an alkoxy. R11, R15, R115 can be

benzyl or an alkyl substituted by $-\text{CO}-$ group.

- For the same reasons as given above claims 1, 2, 5, 7-8, 11, 15, 17-23, 25-26, 29, 36-42, 49-52, and 54 are rejected over Gerster US 6756747.



Gerster '747 teaches the compounds

and the R5 is given by

various groups such as substituted alkyls alkoxy and so on.

All the above reference in separately on in view of ech other would mativat one of skill in the art to make the claimed compounds. There is no test data given in the specifications, nor is there any unexpected results showing that applicants compounds are non obvious.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible

Art Unit: 1625

harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 42, 47, 54 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1-4 of copending Application No. 20090163532 Christopher Perman et al . Although the conflicting claims are not identical, they are not patentably distinct from each other because these claims also teach pharmaceutical compositions of the IRM compounds of the applicants.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 42, 47, 54 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-35 of copending Application No. 10/595049 .Although the conflicting claims are not identical, they are not patentably distinct from each other because theses claims are also drawn to pharmaceutical composition containing the IRMs of applicants claim formula.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Art Unit: 1625

Claims 1, 2, 5, 7-8, 11, 15, 17-23, 25-26, 29, 36-42, 49-52, and 54 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-27 of U.S. Patent No. 7091214. Although the conflicting claims are not identical, they are not patentably distinct from each other because the substituents are a combination of applicants'. They disclose the reverse amide for the Z-R1-1 position, and alkyl for the R2 position, and applicants' claims also state that the RA and Rb which form a ring can be substituted.

[If the method claims are rejoined applicants should be prepared to file a TD over 10/911800.]

Conclusion

Claims 1, 2, 5, 7-8, 11, 15, 17-23, 25-26, 29, 36-42, 49-52, and 54 stand rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rita J. Desai whose telephone number is 571-272-0684. The examiner can normally be reached on Monday - Friday, flex time..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Andres can be reached on 571-272-0867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1625

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rita J. Desai/
Primary Examiner, Art Unit 1625

August 28, 2009